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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,172	11/13/2001	Yoshitaka Ohshima	Q67033	6575

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EXAMINER

QUARTERMAN, KEVIN J

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/987,172	Applicant(s) OHSHIMA ET AL.	
	Examiner Kevin Quarterman	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,8,15 and 17 is/are rejected.
- 7) ☒ Claim(s) 2,6 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed 20 January 2004 has been entered and overcomes the objection to the title.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-4, 7, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding claims 3-4, both claims state "the foil is elongated no more than 15% of the foil's pre-pinch seal dimensions." It is unclear to the Examiner what the foil's pre-pinch seal dimensions are. The phrase is not clearly defined in the claim or specification. Due to their dependency upon claim 3, claims 7 and 17 also deemed indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2879

6. Claims 1, 3, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Horiuchi (US 6368175).
7. Regarding independent claim 1, Figure 1 of Horiuchi shows an arc tube (1) comprising a quartz arc tube body (2a, 2b) and a molybdenum foil (4) joined with the arc tube body by a pinch seal, the arc tube body having a compressive stress of 10^5 N/m² or more along a junction surface with the molybdenum foil at an ordinary temperature (col. 8, ln. 2-3).
8. Regarding claims 3, Figure 1 of Horiuchi shows the foil being elongated no more than 15% of the foil's pre-pinch seal dimensions.
9. Regarding claim 8, Horiuchi discloses that the foil contains molybdenum (col. 11, ln. 17-18).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5, 7, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi in view of Irisawa (US 5962976).
12. Regarding claims 5 and 7, Horiuchi teaches each of the limitations of independent claim 1, as discussed earlier, but fails to exemplify a plurality of cracks

formed on the junction surface of the foil and the arc tube body, wherein a maximum depth of the cracks is 50% or less of a thickness of the molybdenum foil.

13. Figure 4 of Irisawa teaches that it is known in the art to provide an arc tube with a plurality of cracks formed on the junction surface of a foil (5) and the arc tube body (4), wherein a maximum depth of the cracks is 50% or less of a thickness of the foil. Irisawa discloses that this arrangement is provided for scattering stresses applied to the pinch seals (col. 5, ln. 3-14).

14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the arc tube of Horiuchi with foils having a plurality of cracks, as taught by Irisawa, for increasing the junction strength of the foil and the arc tube body.

15. Regarding claims 15 and 17, Figure 4 of Irisawa also shows the junction surface roughened.

Allowable Subject Matter

16. Claims 2, 6, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

18. The following are statements of reasons for the indication of allowable subject matter:

19. Regarding claim 2, the prior art of record neither shows or suggests an arc tube comprising, in addition to other limitations of the claim, a ratio A/B of a width A and thickness B in a pinch seal portion of the arc tube being $1.8 \leq A/B \leq 2.8$. Due their dependency upon claim 2, claims 4, 6, and 16 are also allowable.

Response to Arguments

20. In response to applicant's argument that it is improper for the Examiner to request that applicants limit the pre-pinch seal dimension to any value and that claims 3 and 4 are clear as filed, the Examiner submits that there is no request from the Examiner for applicant to limit the pre-pinch seal dimension to a specific value. Applicant pointed the Examiner to paragraph [0016] of the specification to find a discussion on the pinch seal dimensions. After reviewing this paragraph, the Examiner finds that paragraph [0016] is still vague on what the pinch seal dimensions are. However, the Examiner notes that paragraph [0015] of the specification discusses a ratio of a width A and a thickness B in the pinch seal portion of the arc tube being $1.8 \leq A/B \leq 2.8$. It appears to the Examiner that parameters "A" and "B" are the foil's *pre-pinch seal dimensions* referred to in claims 3 and 4. If this is so, it is still unclear which dimension, A or B, the elongation of the foil is compared to. Thus, the Examiner holds that claims 3, 4, 7, and new claim 17 are indeed indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, as discussed earlier.

21. In response to applicant's argument that Horiuchi does not utilize a pinch-sealing process, the Examiner notes that the method of making a device is not germane to the issue of patentability of the device itself (MPEP § 2113 [R-1]).

22. In response to applicant's argument that Irisawa fails to teach any cracks in the molybdenum foil but instead discloses an "irregular interface" between the glass and foil, the Examiner notes that Irisawa also discloses that those fine irregularities serve to minimize the development of cracks (col. 5, ln. 15-22). Thus, the Examiner holds that Irisawa does indeed teach cracks and a method of minimizing them.

Conclusion

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

24. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Quarterman
Examiner
Art Unit 2879

kq 
21 July 2004


Joseph Williams
Primary Examiner
Art Unit 2879